

Eternal Vigilance Is the Price of Tire Mileage

"Speed Is Expense" Is One
Standard Rule You May
Be Sure Will Work
Against You All the Time

Series of Articles for Novice Car Owners

For the benefit of the new automobile owner The Tribune offers a series of articles on the construction and operation of motor cars, prepared by H. C. Brokaw, technical director of the West Side Y. M. C. A. automobile schools. The tenth, herewith, deals with tires and better mileage.

Possibly you think because his station in life is down at the bottom, where there are misdeeds of the auto world. But you may be perfectly sure that Sir Serviceable Tire is worthy not only of your respect—if not veneration—but of your intimate companionship. Get acquainted with him at the first opportunity, for he is a friend—if you make him a friend—who goes with you through all kinds of weather and does not "blow up" unless you neglect him badly or the infirmities of old age overtake him.

The modern auto tire consists of a whole and a tube—the former to resist the hard wear of road service and the tube to give the required inflation for cushioning the wheels. These two essentials were combined in the single tube tire in the early days of automobile building, but the increasing weights of cars and speed at which they are driven made the single tube impossible. The shoe is not elastic to any great degree, except for the thick rubber tread. The tube is elastic, confining the air which makes the cushion between bump and driver. It stretches taut the shoe, giving a firm, flexible contact with the roadway for traction, and absorbing the road shocks in large measure.

Abuse Shortens Service
Now, tires are really wonderful pieces of work. It is remarkable that they stand up as well as they do when you consider the car weight, speed and rough roads encountered. Yet the average driver is apt to say that tires make him tired—especially after he has to travel in one or more. He should realize their good qualities and not think they should stand any amount of abuse and still give maximum service. Having learned this proper respect, the next thing is a proper care through their lengthened career.

The rather marvelous development of the tire in the last fifteen years or so, through improved methods of manufacture and experience in meeting road conditions, has not been at the expense of the car owner. Tires are cheaper, even with war prices in vogue, than ten years ago. Of course, a cheap tire is not the sole desideratum. First cost, plus repairs and actual mileage given, alone will tell the tale of economy or waste—the cost per mile, the only safe guide in buying tires.

To keep down the cost per mile there are some things the owner must do. The manufacturers of most tires issue a pamphlet telling how the tire is made and how to take care of it. Get it and read carefully and follow the advice given. Some things it does not say, however. Perhaps the most important of these is that you should learn to favor the tires at the time of great strains, such as in turning corners, going over rough roads, new broken stone, railroad crossings and potholes and where the surface is rutty or dried or frozen when all get up. Go easy. Spend a moment extra and save dollars.

Look After Small Cuts
Just despite your care, there will be a cut in the rubber tread. The tire is regularly once a week or oftener and look for these cuts. Small ones should be sealed with cement before they get larger. Larger cuts may need the putty-like repair material to be had of the supply dealer or may need vulcanizing. But it should be attended to at once. Water will get into the fabric and it will rot in amazing short time, and then vulcanizing does no good, for the strength of the fabric is gone. Sand breaks in as well as water and makes "chairs" in the tread. Pressure on tires should be kept at the figure given by the manufacturer, not by guessing, but by gauge, and the reserve tire must be tested the same as those in use. If you have odds of gold and do not care for expensive you may prefer comfort to tire mileage, for the pressure demanded by the car manufacturer makes the car ride hard—solid rubber tires do not mean anything. A car systematically overloaded will wear out tires faster; pressure oversize tires to correct this evil.

Grease softens rubber. Keep the tires free.
Fast driving heats the tires, with heat wear, besides magnifying the bumps and giving a side swing which grinds the tires over the road.
If the front wheels are out of alignment it also grinds off the tread.
A harsh clutch will also wear the tires. Whirling around corners sometimes makes all four tires slide, even when there is no bad skid.

Here Is a Good Tip
On a wet day avoid roads where crumbly stones have been newly applied. Rubber workers in our vulcanizing school tell the knaves to show them on the rubber. Wet stones with sharp corners slice a tire like a knife.

Inner tubes are punctured, but may be patched easily with the handy kits sold at tire stores, and there are handy vulcanizing outfits for larger cuts which may be carried in the car. Blow-outs should be taken to the expert. New methods enable the expert to do wonders with tubes we used to throw away.

I do not want to recommend anything which will take all the joy out of driving, but the owner who keeps a close watch on what his tires do and know and to a penny their story will live longer. Because the tires are the life of the car cost about as much as the original price of the car. About the tires as about the car. The manufacturer tries to show you the tire cost, and along with it the life of the car follows his advice. He has less road troubles with him than he who neglects them per-

Be Sure Liquid In Crank Base Is Lubricating Oil

Sometimes It Is Thinned
Out With Gasoline and
Burned-Out Bearings Are
a Certain Consequence

By Wm. H. Stewart Jr.
The Stewart Auto School

The wise car owner obeys his instruction book explicitly and does nothing unless he finds a good suggestion in an automotive magazine or in that same book. He fills the base of his engine with lubricant when oil is necessary, as indicated by the gauge, but the instruction book does not always advise him further regarding the oiling system. At the present high cost of lubricant more instructions are necessary.

You may have liquid in the base of

your engine, but is it a lubricant? Many times this liquid is a combination of cylinder oil and gasoline. Its lubricating properties are poor and should the bearings burn out through lack of oil the owner is apt to blame the oil for the trouble. Then he immediately buys oil of another grade, without knowing the real reason for his trouble.

The best way to make sure of having the right grade of oil is to use religiously the oil recommended by the manufacturers of the particular car you drive. Depending upon the type of engine, crank-case oil should be changed regularly. Old lubricating oil should be drawn out and new oil put in for at least every 1,000 miles of driving. In special cases it is advisable to renew the oil much oftener, but this is the usual length of time it may be left in the engine.

If the engine doesn't get a sufficient amount of oil it will run hot. If the driver does not notice that his oil gauge is failing to indicate, it is doubtful that he would know the engine was hot until it stopped and wouldn't run any more. In such a case he would probably find that one or two, perhaps all of the bearings are burnt out.

When the engine is not getting

enough oil it is usually because the oil supply has been allowed to run low or there is something wrong with the circulating system—either the pump is not forcing the oil to the bearings properly or the pipes are plugged or the connections are loose or the strainer is obstructed with foreign matter.

Whenever the gauge does not function properly the trouble should be investigated at once. Make sure, first of all, that there is enough oil in the crank case. Then take a careful look at the oil pipe connections to make sure that they are not leaking. If these are tight take out the oil strainer and clean it and if the trouble is still in them out with the tire pump. Finally, a better adjustment of the oil pump may be made to cause it to pump more oil, provided indications prove it to be improperly adjusted.

Can Drive Overland From Western Cities

Reports collected by H. T. Gardner, secretary of the Automobile Dealers' Association, show road conditions for factory driveways from Cleveland, De-



La Fayette Can "Step Some"

The actual road speed of the La Fayette car has not been announced, but those who have been venturesome enough to test with La Fayette cars in the vicinity of Indianapolis, where they are manufactured, will vouch for at least eighty miles an hour. Here is a car that has had 10,000 miles of testing.

troit and other such points. His advice is that cars may now be driven, with a minimum of trouble, by way of Youngstown, Beaver Falls, Pittsburgh, Bedford, Gettysburg, Lancaster, Philadelphia and Trenton. There are, of course, some bad stretches on this route.

The Liberty Highway through Ashtabula, Erie, Jamestown, Elmira, Binghamton and Albany is reported in any, thing but driving condition.

Road and Weather Information for Auto Tourists

Goodrich Bureau Plans to
Give Accurate Data to
Car and Truck Opera-
tions

How are the roads? This question is asked hundreds of times daily by owners of motor cars and operators of trucks. The majority of the answers are similar to this: "We don't know"; or, "We think they are in good condition."

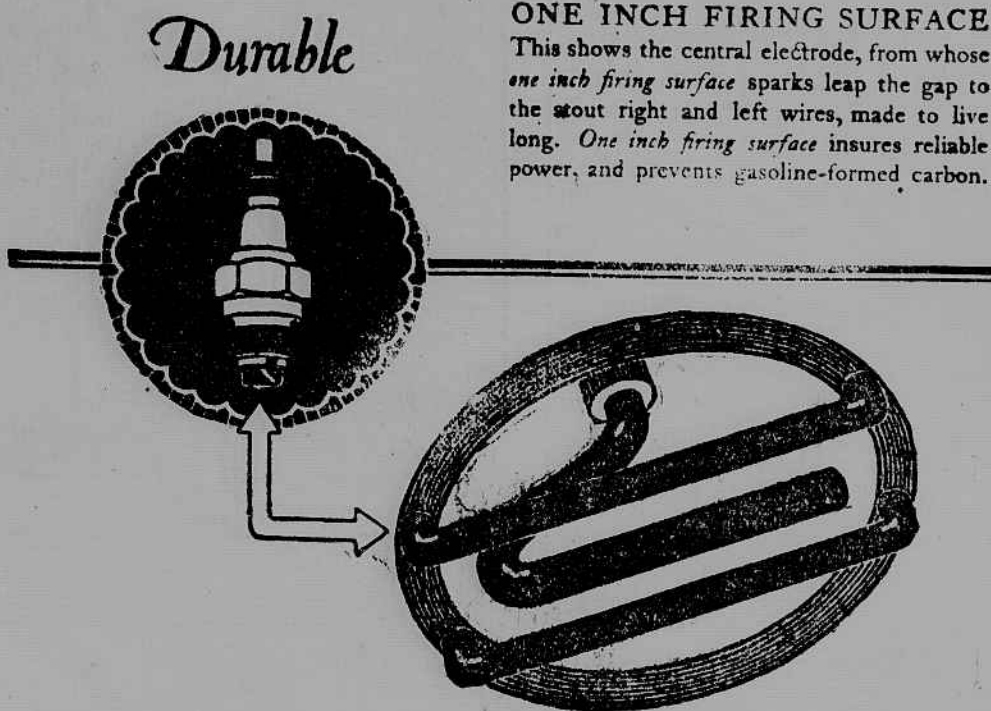
A step to minimize the uncertainty and annoyance caused by inaccurate highway information has been taken by the travel and transport bureau of the B. F. Goodrich Rubber Company. By arrangement with the weather bureau of the United States Department of

Agriculture, Goodrich is providing special weather reports on highways and they are obtainable in branches of the company in principal cities.

The new service will make it possible for a car or truck owner to find out the exact condition of the roads in every direction from the point of inquiry. Shippers and dispatchers will be able to determine the approximate time that should be consumed in inter-city trucking. Tourists who have scheduled themselves by the shortest route may often find it advantageous to select a different road in the event the original route is impassable.

There are 208 weather bureau stations in the country and highway report service has been established in 54 of them. Thirty-five of these are in cities where Goodrich branches are located. As the government extends its highway report service more and more motorists will be served through the travel bureau stations. Eventually Goodrich will render service in all its branch cities—120 in number.

Supplementing the weather highway reports motorists will get detour and other highway information, as well as state highway maps and tour cards at the company's branches.



Durable

ONE INCH FIRING SURFACE

This shows the central electrode, from whose one inch firing surface sparks leap the gap to the stout right and left wires, made to live long. One inch firing surface insures reliable power, and prevents gasoline-formed carbon.

FYRAC Spark Plugs

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A. L. M. Co., Inc., 8009 Broadway, City.
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Audubon Auto Supply Co., 1134 St. Nicholas Ave., City.
William Berney, 144 W. 54th St., City.
Behrens Auto Repair Shop, 807 E. 127th St., City.
Belgo Tire and Rubber Works, 1198 Park Ave., City.
Bell Garage, 529 W. 131st St., City.
Belmont Ford Repair Co., 655 E. 130th St., City.
L. J. Borrell, 318 E. 128th St., City.
Bronx Starter and Ignition Service Station, 275 E. 140th St., City.
C. & F. Auto Supply Co., 573 W. 165th St., City.
C. & B. Auto Supply Co., 338 Park Ave., City.
S. Caspert, 323 E. 62d St., City.
Chaffield Auto Supply, 323 W. 52d St., City.
Chelsea Auto Supply Co., 60 W. 118th St., City.
Circle Garage, 103 W. 50th St., City.
C. V. Gearhouse & Co., 1763 Park Ave., City.
Crescent Auto Supply Co., 468 Fordham Rd., City.
Dalcum Auto Supply, 278 Amsterdam Ave., City.
A. Diemer, 445 E. 144th St., City.
Mat Dow, 380 Alexander Ave., City.
Electro Exchange Shop, 621 8th Ave., City.
Feldman Service Station, 2455 Grand Concourse, City.
Fuld & Fuld, 1461 1st Ave., City.
Fulton Auto Radiator and Lamp Works, 168 W. 50th St., City.
Gant Garage, 2225 Webster Ave., City.
H. Haekaw, 510 E. 85th St., City.
Harlem Auto Supply Co., 2124 7th Ave., City.
Fred Hardy, 444 84 Ave., City.
H. H. H. Works, 138 E. 128th St., City.
F. E. Roberts, 320 E. 31st St., City.
International Vulcanizing Co., 498 Bergen Ave., City.
Jackson Square Auto Shop, 303 W. 131st St., City.
A. J. Laffan, 1219 6th Ave., City.
H. Jacoby, 2999 Webster Ave., City.
Eugene Kane, 427 W. 57th St., City.
J. K. Kander & Son, 1368 Webster Ave., City.
Klaus-Morr Storage Battery and Tire Co., 145 W. 123d St., City.
Lafayette Street Garage, 277 Canal St., City.
Langdon & Dougherty, 560 W. 41st St., City.
Lewis Lipschitz & Co., 518 W. 44th St., City.
M. L. L. 121 5th Ave., City.
Lincoln Garage, 573 W. 131st St., City.
Liberty Garage, 693 St. Nicholas Ave., City.

BROOKLYN AND QUEENS

Academy Garage, 327 Union St., Brooklyn.
Acorn Garage, 680 Sackett St., Brooklyn.
Morris Albera, 195 S. Portland St., Brooklyn.
Avin, 100 51st St., Brooklyn.
Atlantic and Nostrand Garage, 1255 Atlantic Ave., Brooklyn.
Atlantic Crossing Garage, 15 Snedker Ave., Brooklyn.
Auto Maintenance Co., 18 Vanderbilt Ave., Brooklyn.
Auto Tire Co., 19 Hanson Pl., Brooklyn.
B. & G. Auto Repair Co., 1270 60th St., Brooklyn.
Bammer & Co., 412 Herkimer St., Bklyn.
Bedford Auto Garage, 567 Bedford Ave., Brooklyn.
Bergen Garage, 1551 Bergen St., Bklyn.
Berry Ford Service, 235 Berry St., Bklyn.
Berry Tire and Repair Co., 462 Berry St., Brooklyn.
Blake & Conery, 72 4th Ave., Brooklyn.
B. & M. Auto Repair Co., 648 Bushwick Ave., Brooklyn.
Broadway Tire and Rubber Co., 558 Broadway, Brooklyn.
Brooklyn Heights Garage, 48 Love Lane, Brooklyn.
B. L. Brown, 255 E. 23d St., Brooklyn.
Bunker Garage, Inc., 56 Prince St., Bklyn.
John Burkholder, 140 Gates Ave., Bklyn.
D. G. Byk, 1269 Bedford Ave., Bklyn.
H. G. Carlini, 1910 Kings Highway, Bklyn.
Charles E. Cook, 121 2d Ave., Brooklyn.
Church Auto Service, Inc., 2222 Church Ave., Brooklyn.
Club Garage, 340 St. John's Pl., Brooklyn.
L. L. Circle Garage, 31 Ocean Parkway, Brooklyn.
Commodore Garage, 607 Sackett St., Bklyn.
Commuter Auto Service Co., 217 Flatbush Ave., Brooklyn.
Coppel & Leonard, N. 1st and Berry Sts., Brooklyn.
Davis & Geob, 340 9th Ave., Brooklyn.
Dean Garage, Inc., 50 Dean St., Brooklyn.
W. E. Deane, 1725 60th St., Brooklyn.
De Rosa Corp., 255 4th Ave., Brooklyn.
A. W. Dolin, 223 9th St., Brooklyn.
Dorian Motor Corp., 219 9th St., Bklyn.
Dwyer Brothers, 230 Park Ave., Brooklyn.
Charles E. Edwards, 115 E. 92d St., Brooklyn.
H. Edwards Auto Service, 568 Madison St., Brooklyn.

RICHMOND, STATEN ISLAND

Block's Garage, 465 Bay St.
Burgess & Bridgman, 667 Bay St.
Engler Bros., 163 Richmond Rd.
G. Gilligan, Bay and Swan Sts.

ENTERPRISE RUBBER CO.

Enterprise Rubber Co., 227 Flatbush Ave., Brooklyn.
Ever Ready Auto Supply, 142 Bay 19th St., Brooklyn.
Evergreen Garage, 1711 Hancock St., Brooklyn.
Thomas Fallon, 1110 President St., Bklyn.
Feldman Auto Sales, 2130 Bergen St., Brooklyn.
L. Finer, 1459 Sterling Pl., Brooklyn.
J. Fisher & Callan, 1471 Bergen St., Bklyn.
Fogarty & Hendrickson, 435 N. Elliott St., Brooklyn.
Forman Brothers, 106 Beaver St., Bklyn.
A. V. Formacher, 353 Huxwicks Ave., Brooklyn.
Ford Repair Shop, 32 Rockwell Pl., Bklyn.
Fourth Ave. Cycle Co., 449 4th Ave., Brooklyn.
Fox Brothers Garage, 319 Greene Ave., Brooklyn.
Fulton-Putnam Garage, 950 Fulton St., Brooklyn.
V. Galati, 258 2d Ave., Brooklyn.
H. G. Galt, 316 Saratoga Ave., Brooklyn.
Gerry Garage, 77 Gerry St., Brooklyn.
V. H. Glaser, 74 Nostrand Ave., Bklyn.
Gilbert & Son, 441 Bedford Ave., Bklyn.
Glickstein, Wilkenfeld & Turner, 240 N. 10th St., Brooklyn.
W. H. Glaser, 74 Nostrand Ave., Bklyn.
Gowan's Garage, 142 4th St., Brooklyn.
Granada Garage, 1225 Coney Island Ave., Brooklyn.
W. Gumbert, Avenue J, Brooklyn.
Guthrie's Garage, 224 State St., Brooklyn.
Hamilton Steam Vulcanizing Auto Repairs, 150 Hamilton Ave., Brooklyn.
Hallahan Tire Co., 313 Flatbush Ave., Brooklyn.
Harrison Motor Repair Co., 32 N. Oxford St., Brooklyn.
The Ideal Garage, 653 11th St., Brooklyn.
Hillsen Auto Repair Co., 400 3d Ave., Brooklyn.
Interstate Service Co., 219 Berry St., Brooklyn.
Irving Garage, 1007 Avenue G, Brooklyn.
Joseph John, 5703 2d Ave., Brooklyn.
Joy Auto Co., 40 Throop Ave., Brooklyn.
Klein Auto Repair Co., 400 3d Ave., Brooklyn.
Klein Auto Service Co., 710 Coney Island Ave., Brooklyn.
K. & McKean, 163 Schermerhorn St., Brooklyn.
S. Kleinman, 1108 Lafayette Ave., Bklyn.
J. Kronheim, 1218 Bushwick Ave., Bklyn.
Lawrence Street Garage, 39 Lawrence St., Brooklyn.
Lebo Storage Battery Co., 155 4th Ave., Brooklyn.
Leiken & Themapow, 107 7th Ave., Bklyn.
L. & L. Auto Service, 345 5th St., Bklyn.
L. & H. Batters Co., 140 4th St., Bklyn.
Majestic Auto Radiator Co., 1817 Atlantic Ave., Brooklyn.

NEW YORK CITY

H. Medff, 396 Manhattan Ave., Brooklyn.
Morrow Garage, 1872 Sterling Pl., Bklyn.
Metropolitan Motorist Association, 4402 4th Ave., Brooklyn.
L. A. Meyer, 905 4th Ave., Brooklyn.
J. J. McGarry, 844 Atlantic Ave., Bklyn.
Midwood Colony Garage, 1452 Coney Island Ave., Brooklyn.
C. Mogensen, 1509 Avenue W, Brooklyn.
W. E. Mulenrath & Co., 28 Flushing Ave., Brooklyn.
Murray Auto Supply Co., 8617 18th St., Brooklyn.
Nassau Auto Radiator Works, 233 Berry St., Brooklyn.
New Pelina Garage, 501 60th St., Bklyn.
New Palace Garage, 311 Lexington Ave., Brooklyn.
R. S. Onartwo, Canarsie Shore, 2135 Rockaway Ave., Brooklyn.
Pacific Auto Repair Co., 841 Pacific St., Brooklyn.
Palmer Garage, 890 Hillside Ave., Brooklyn.
Falcon-Herring Motor Co., Court and Bergen Sts., Brooklyn.
Park Garage, 577 Park Ave., Brooklyn.
Park Plaza Garage, 920 Union St., Bklyn.
Petersen's Auto Repair Co., 3485 Fort Hamilton Parkway, Brooklyn.
Prospect Park West Garage, 581 17th St., Brooklyn.
Piazza Auto Service, 5 Grand St., Ext., Brooklyn.
Pink & Sundman, 99 Driggs Ave., Bklyn.
Prospect Garage, 137 9th St., Brooklyn.
J. Rabnowitz & Son, 1 Wallabout Market, Brooklyn.
P. Ralph, 689 Coney Island Ave., Bklyn.
H. R. Rabinowitz, 224 State St., Brooklyn.
Rex Vulcanizing Works, 24 Flatbush Ave., Bklyn.
Robbins & Hengstede, 3 Prospect Park West, Brooklyn.
Rocky Auto Service, Inc., 847 52d St., Brooklyn.
Walter Roth, 17 Grace Court, Brooklyn.
Segal Brothers, 611 Flatbush Ave., Bklyn.
Schermerhorn Garage, 81 Schermerhorn St., Brooklyn.
Seville Garage, 74 Guernsey St., Bklyn.
Louis Simon, 591 Manhattan Ave., Bklyn.
Schmidt & Mott, 1611 Woodhaven Blvd., Brooklyn.
Smith-Schermerhorn Corp., 65 Smith St., Brooklyn.
South Brooklyn Auto Repair Co., 204 9th St., Brooklyn.
S. & G. Garage, 182 Reeling St., Bklyn.
Sterling Rubber Works, 76 4th Ave., Brooklyn.
E. G. Stachel Sons, Inc., 70 Commercial St., Brooklyn.
Sullivan Auto Service, 550 4th Ave., Bklyn.
Swartzberg & Blain, 105 Troy Ave., Bklyn.
Trotter's Auto Repair Co., 345 Reeling St., Brooklyn.

WESTCHESTER COUNTY

Troy Ave. Garage, 105 Troy Ave., Bklyn.
Troy Garage, 28 Troy Ave., Brooklyn.
W. H. Vandever, 145 Coney Island Ave., Brooklyn.
W. J. Vauxham, 11 Snyder Ave., Bklyn.
M. R. Yawger, 11 6th Ave., Brooklyn.
Victory Garage, 6010 7th Ave., Brooklyn.
J. Walsh, 123 Atlantic Ave., Brooklyn.
Washington Tire Works, 934 Atlantic Ave., Brooklyn.
Willoughby Garage, 425 Willoughby Ave., Brooklyn.
F. R. Welch, 40 Ocean Parkway, Bklyn.
Harry A. Wunzberg Co., 324 Douglas St., Brooklyn.
660 Street Garage, 615 62d St., Brooklyn.
Alvin Garage, Richmond Hill.
William C. Broadhurst, 11 Franklin St., Hempstead, L. I.
Charles Fauser, Fulton St., Jamaica.
Kercher Auto Supply Co., 301 Front St., Hempstead, L.
Charles Lancer, Jamaica Ave., Woodhaven.
Walter Mosler, Union Hall St., Jamaica.
Roemmel Brothers, Jamaica Ave., Richmond Hill.
S. & S. Auto Supply, Hillside Ave., Jamaica.
Triangle Garage, Smith St., Jamaica.
A. C. Wood, 75 Main St., Hempstead, L. I.

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George Ferguson Co., Main St.
Harris Garage, Main St.
Huguenot Garage, 225 E. Main St.
Mayer & Roberson, East Main St.
B. Rosenblum, 37 North Ave.
Stewart Auto Supply Co., North Ave.
S. Spiegelman, 29 Division St.
United Auto and Electric Co., E. Main St.
Westchester Garage, Main St.
Gautier Auto Supply Co., 211 E. Broadway.
H. L. Levine, 16 Main St.
Narco Garage, Randolph St.
Nepperhan Valley Garage, 236 Nepperhan Ave.
Shrive's Garage, 64 Warburton Ave.
E. H. Slicer, 248 S. Broadway.
Spitzer's Garage, 31 Prospect St.
Warburton A. S. Co., 40 Warburton Ave.
J. Beckerle, 88 W. 3d St.
H. Henning's Garage, 30 3d Ave.
Howard's Inc., 5 4th Ave.
Lincoln Service Station, 151 W. Lincoln St.
Mac Garage, 5th Ave. and 3d St.
E. A. Patch, 12 E. 3d St.
Right Garage, 60 S. 6th Ave.
Schleicher Tire Works, Wilson Pl.
Vernon Heights Garage, 318 E. 3d St.

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Export Department, Werner & Butts, 336 Whitehall Building, New York, U. S. A.
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